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REFER.

November 22, 1961

BIOASSAY INFO

Dr. Charles L. Dunham
Division of Biology and Medicine
U.S. Atomic Energy Commission
Germantown, Md.

Dear Chuck:

Here are the values for the internally-deposited radionuclides in the Rongelap population as measured in February 1961.

The mean Cs^{137} body burden of males and females of exposed and unexposed populations, as determined by whole-body counting, does not differ significantly from the 1959 mean value. The mean 1961 Zn^{65} body burden was about 1/6 of the value measured in 1959, a rather surprising drop. This year we positively identified Co^{60} in this population with a mean level of 0.16 mμc/kg body weight. This was possible because of the improved counting equipment, larger crystal and 30-minute counting time employed.

The values for Sr^{90} in the 24-hour urine samples collected are tentative values, since all the samples have not been analyzed and rechecked. We have a composite 5-gallon sample that is being analyzed and I suspect this will give the best value for the mean level of urinary Sr^{90}. To date, on the basis of the individual 24-hour samples analyzed, there is an average increase in urinary Sr^{90} concentration of 35% compared with the mean value reported in 1959.

I hope this information will serve for the present. I'm working on the report of the entire set of data and hope to have it soon. Please call on me if there is any further information that you need right now.

Sincerely yours,

Stan

Stanton H. Cohn, Ph.D.
Medical Physics Division
Medical Department

SHC:gfb

D/a Navy Dept Re - Secrecy

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URine
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Conard offered the suggestion of obtaining a ship with an iron room and equipped to do the sort of work that is now being done at Rongelap on a permanent basis and thus have a floating laboratory ready to go where ever needed. This suggestion was offered for future consideration rather than present action.

The Sr^{90} burden in the 1956 death in the population was 0.8 of a strontium unit. Teeth have been collected for Sr^{90} determination. Bruner pointed that in order to have comparable data simular parts of the tooth should be used. Most of the Sr^{90} can be expected in the cemented region of the tooth?

Sr^{90} and Cs^{137} analyses are summarized in the following table:

d/m/ liter of urine		
Sr^{90}	Cs^{137}	Remarks
12.	174.	Collected 24 days after Bravo. Analyzed 2 years later
2.4	33.	Feb. 1956, pre Redwing
.48		Majuro, 1957 average
.34-1.43	137-370	Majuro, 1957 range
25X '57 value	100X '57 value	Rongelap, 1954

The following data were presented by Cohn. In 1958 Cs^{137} body burden was 0.5 - 1.5; average 0.8 (μc?).- About 1 year to reach equilibrium. In 1957, Zn^{65} body burden at Rongelap by whole body counting 0.03 to 0.07 μc. In 1957, Zn^{65} body burden at Utirik by whole body counting 0.48 and 0.23. In 1958 Zn^{65} body burden at Rongelap by whole body counter were 1 to 3 μc. The background gamma curves from pre and post Hardtack, showing presence of La^{140} in post Hardtack samples, were presented. Some people have La^{140} peak, others do not.